

**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

## Total Maximum Daily Load Information Sheet

### Cedar Creek and Horse Creek

**Water Body ID: 1344, 1357, and 1348**

#### Water Body Segment at a Glance:

<b>County:</b>	Cedar
<b>Nearby City:</b>	El Dorado Springs
<b>Length:</b>	Cedar Creek (1344) – 31.0 miles Cedar Creek (1357) – 16.2 miles Horse Creek (1348) – 27.7 miles
<b>Pollutants:</b>	Aquatic macroinvertebrate bioassessments Low dissolved oxygen (Horse Creek only)
<b>Sources:</b>	Unknown



#### Scheduled for TMDL development:

TMDL development schedules are subject to change.

The most current schedule for TMDL development is available on the department's website at  
[dnr.mo.gov/env/wpp/tmdl/wpc-tmdl-progress.htm](http://dnr.mo.gov/env/wpp/tmdl/wpc-tmdl-progress.htm)

#### Description of the Problem

A water body is considered impaired when it fails to meet applicable water quality standards. Water quality standards consist of designated uses, water quality criteria, an antidegradation policy and implementation procedures. Cedar Creek and Horse Creek are impaired due to exceedances of the water quality criteria for the protection of aquatic life.

#### Designated uses of Cedar Creek and Horse Creek\*

- Warm Water Habitat (WWH)
- Whole Body Contact Recreation Category A (WBC-A) ←water body 1344 only
- Whole Body Contact Recreation Category B (WBC-B) ←water body 1357 and 1348 only
- Secondary Contact Recreation (SCR)
- Human Health Protection (HHP)
- Irrigation (IRR)
- Livestock and Wildlife Protection (LWP)

\*In addition to these specific uses, all waters of the state are protected by the general water quality criteria that are specified in the state's Water Quality Standards at 10 CSR 20-7.031(4).

#### Designated use that are impaired

- Warm Water Habitat (WWH)

## **Criteria that apply**

The state's general water quality criteria at 10 CSR 20-7.031(4) are applicable to all waters of the state at all times. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

- Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal, or aquatic life [10 CSR 20-7.031(4)(D)].
- Waters shall be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].

Specific criteria for dissolved oxygen can be found in 10 CSR 20-7.031 Table A. For the protection of warm water habitat, the dissolved oxygen criterion is a minimum of 5 milligrams per liter (mg/L).

## **Assessment and water quality data**

The department judges aquatic macroinvertebrate communities to be impaired if the percent of sampling sites receiving a score of 16 or more is significantly less than the scores for reference streams that are located in the same ecological drainage unit. Scores of 16 or greater reflect an unimpaired macroinvertebrate community. Bioassessments for both Cedar Creek and Horse Creek show impaired aquatic macroinvertebrate communities (Tables 1 and 2).

**Table 1. Cedar Creek Aquatic Macroinvertebrate Bioassessment**

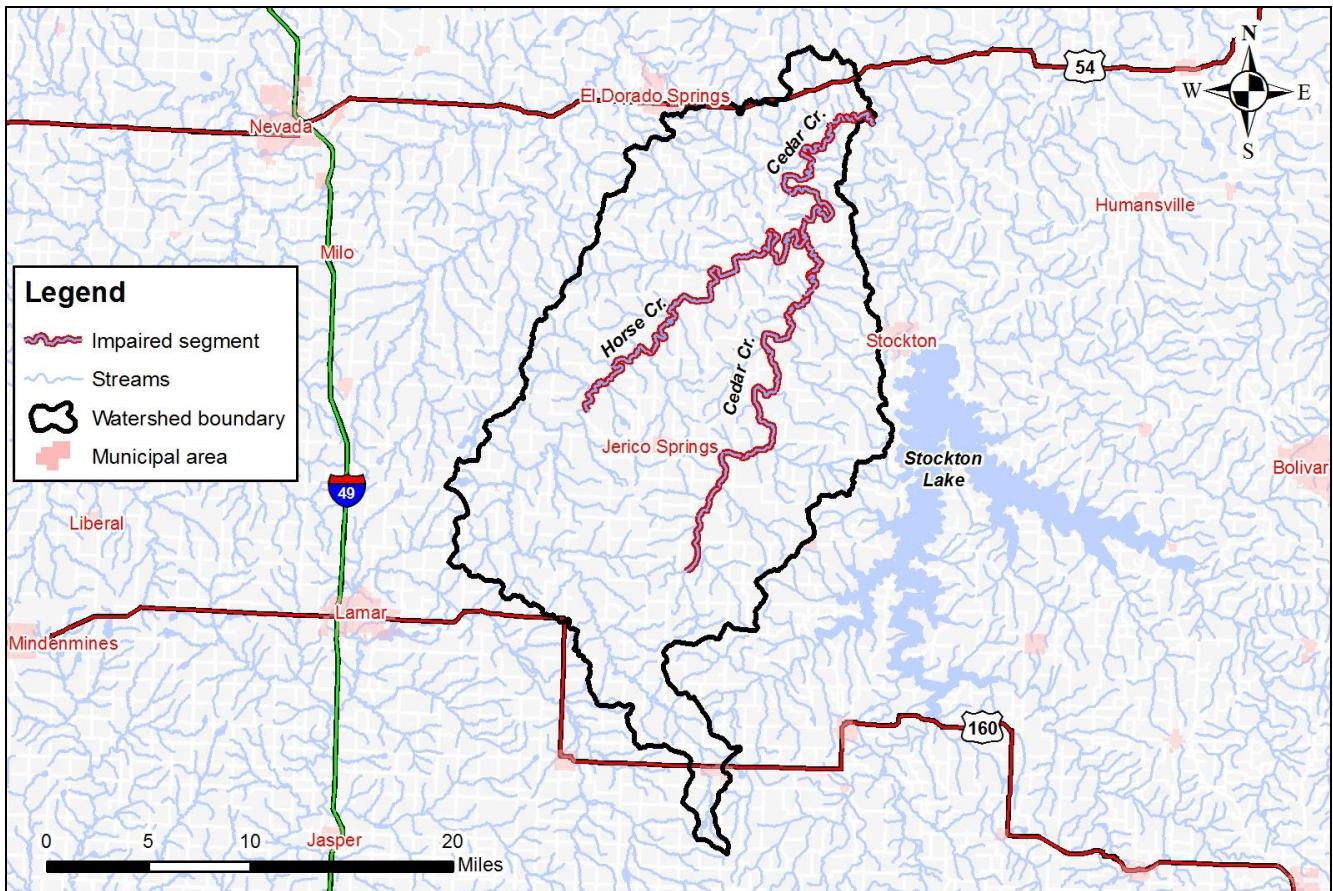
Org	Site	Location	Date	Score
MDNR	1357/6.0	Cedar Cr. @ Hwy B	Fall 2003	14
MDNR	1357/6.0	Cedar Cr. @ Hwy B	Spring 2004	14
MDNR	1357/6.0	Cedar Cr. @ Hwy B	Fall 2006	10
MDNR	1357/6.0	Cedar Cr. @ Hwy B	Spring 2007	10
MDNR	1344/30.0	Cedar Cr. @ Hwy Z	Spring 2001	12
MDNR	1344/30.0	Cedar Cr. @ Hwy Z	Fall 2001	16

**Table 2. Horse Creek Aquatic Macroinvertebrate Bioassessment**

Org	Site	Location	Date	Score
MDNR	1348/12.0	Horse Cr. ab. Hwy CC	Spring 1995	14
MDNR	1348/12.0	Horse Cr. ab. Hwy CC	Fall 1995	16
MDNR	1348/12.0	Horse Cr. ab. Hwy CC	Fall 2006	10
MDNR	1348/12.0	Horse Cr. ab. Hwy CC	Spring 2007	10
MDNR	1348/10.0	Horse Cr. @ Hwy CC	Spring 1995	16
MDNR	1348/10.0	Horse Cr. @ Hwy CC	Fall 1995	14
MDNR	1348/10.0	Horse Cr. @ Hwy CC	Spring 2000	14
MDNR	1348/10.0	Horse Cr. @ Hwy CC	Fall 2000	12

For dissolved oxygen, if the frequency of exceedance is greater than 10 percent, then a water body is judged to be impaired. For Horse Creek, 394 measurements of 417 taken (94 percent) were below the minimum 5 mg/L criterion.

## Map of the Cedar Creek Watershed



### TMDL for Cedar Creek and Horse Creek

The Cedar Creek and Horse Creek TMDLs will calculate the maximum amount of each listed pollutant that the stream can receive and still meet water quality standards. The TMDL will also identify all potential or suspected pollutant sources in the watershed and distribute the allowable pollutant loads among those various sources. When developed, the Cedar Creek and Horse Creek TMDLs will use the most current and available data. For this reason, the final TMDL may present information that differs from that contained in this information sheet.

### For more information call or write:

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Program Home Page: [dnr.mo.gov/env/wpp/index.html](http://dnr.mo.gov/env/wpp/index.html)